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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/925,629 | 08/10/2001 | Hitoshi Furuata | 041514-5137 | 2929 |

9629 7590 09/21/2004

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EXAMINER

PATEL, GAUTAM

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2655

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/925,629 | FURUHATA ET AL. | |
| | Examiner | Art Unit | |
| | Gautam R. Patel | 2655 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. This is in response to amendment filed on 6-15-04.
2. Claims 1-6 remain for examination

Claim Rejections - 35 U.S.C. § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:
A person shall be entitled to a patent unless --
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-6 are rejected under 35 U.S.C. § 102(b) as being anticipated by Yang, US. patent 6,043,911 (hereafter Yang).

As to claim 1, Yang discloses the invention as claimed [see Figs. 2-6, especially 2 and 4], an optical pickup including a light emitting device with two sources, a holding member and two gratings, comprising:

a light emitting device [fig. 2, unit 32 & 34] having at least a first light source [fig. 2, unit 32] for emitting a first laser beam [650 nm] and a second light source [fig. 2, unit 34] for emitting a second laser beam having a wavelength different [780 nm] from that of said first laser beam and in which said first and second light sources are closely arranged [col. 3, lines 23-44];

an optical system formed with an irradiation optical path for guiding said laser beam toward a recording medium and a reflection optical path for guiding a reflected laser beam by said recording medium toward a photodetector [fig. 4, unit 42] [col. 4, lines 29-59]; and

a holding member [fig. 2, unit 30 and 36] for holding optical parts of said optical system, wherein on said irradiation optical path near an arranging position of said light emitting device, said optical system includes a first grating [fig. 2 unit 38A] for allowing said first laser beam to pass as a 0th order light, diffracting said second laser beam, and generating a primary diffracted light having an optical axis which closely coincides with an optical axis of said first laser beam and a second grating [fig. 2, unit 38B for using

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the laser beam supplied from said first grating as a main beam and generating sub-beams for generating a tracking error signal according to a three-beam method with respect to said main beam [col. 3, line 66 to col. 4, line 59], and

said holding member holds a unit [fig. 2, unit 36] in which said light emitting device and said first and second gratings are integrated [col. 3, lines 23-65].

4. Claim 2 recite the following features, inter alia, disclosed in Yang:

said first and second gratings are formed by a single hologram device [fig. 2, device 38] [col. 3, lines 23-65].

5. Claim 3 recite the following features, inter alia, disclosed in Yang:

said hologram device is a device in which said first grating is formed on a surface of a plate-shaped substrate and said second grating is formed on another surface of said plate-shaped substrate [col. 3, lines 23-65].

6. Claim 5 recite the following features, inter alia, disclosed in Yang:

an amount of light of said primary diffracted light becomes larger than that of another primary diffracted light having a different polarity in said first grating [col. 4, lines 29-59].

7. Claim 6 recite the following features, inter alia, disclosed in Yang:

a wavelength of said first laser beam is shorter [650 nm] than that of said second laser beam [780 nm] [col. 3, lines 23-65].

Claim Rejections - 35 U.S.C. § 103

8. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yang as applied to claims 1-3, 5-6 above in view of Kikuchi et al. US. patent 6,043,911 (hereafter Kikuchi).

As to claim 4, Yang discloses all of the above elements, including a hologram device. Yang does not specifically disclose that hologram is blazed or not.

However, blazed holograms are well known in the art for a very long time, and most of them are blazed. Also Kikuchi clearly discloses:

the first grating is blazed in said hologram device [col. 11, lines 6-15 and fig. 4].

Both Yang and Kikuchi are interested in improving the hologram and diffraction grating in an optical disk device having dual light sources.

One of ordinary skill in the art at the time of invention would have realized that the most of hologram devices are blazed, especially in a dual wavelength environment. And reducing the size of the optical head would be good feature to have for saving money and real estate on the system.

Therefore, it would have been obvious to have used a blazed hologram in the system of Yang as taught by Kikuchi because one would be motivated to reduce the size of the optical head in the system of Yang and provide a more compact design thus saving money and real estate in the system [col. 11, lines 10-15; Kikuchi].

Yang and Kikuchi were cited as prior art references in previous paper.

9. Applicant's arguments filed on 6-15-04 have been fully considered but they are not deemed to be persuasive for the following reasons.

10. In the REMARKS, the Applicant argues as follows:

A) That: "Applicants respectfully assert that the disk-type prism 38A of Yang is not a grating. A prism is completely different optical element than a grating. If the examiner persists in maintaining this basis of rejection, Applicants respectfully request further explanation as to how the disk-type prism 38A of Yang is a grating." [page 12, para. 1; REMARKS].

FIRST : It seems there is problem of semantics here. As Applicants are well aware that *function* of grating is to diffract light. Does 38A and 38B diffract light? Yes they do [see col. 4, lines 1-17]. Therefore by definition 38A and 38b are gratings. Shape of the prism is incidental, since that is not being claimed.

SECOND: The Applicants are also asking for a proof that prism is routinely used for diffraction grating especially in multi-beam environment. Use of prism for diffraction grating is known for a long time. As a proof the Examiner is providing three references.

a. Hirose et al. (US. patent 5,508,992) "Magneto-optical recording/reproducing pickup head with a diffraction grating ...".

b. Takasuka et al. (US. patent 6,192,020) "Semiconductor laser device".

Here Takasuka discloses an integrated prism which has diffraction grating function [see col. 6, lines 8-32; col. 6, line 35 to col. 7, line 5; and fig. 1]. Also fig. 18 discloses a totally integrated device.

c. Kouno (US. patent 6,404,709) "Optical pickup device".

Here Kouno discloses a coupling prism 10 which provides function grating with its surface 16.

B) That: "the hologram pattern formed in the HOE 38 of Yang is not a grating, ..." [page 12, para. 2; REMARKS].

Please see paragraph 10 section A) above.

C) That: "Applicants respectfully assert that the two-wavelength light source module 40 of Yang that includes the first laser diode 32, is unlike the holding member recited in independent claim 1. More particularly, the first and second gratings are not integrated into two-wavelength light source module 40 of Yang." [page 13, para. 1; REMARKS].

To the extent claimed all units first laser second laser stem and base are clearly disclosed by Yang.

11. **THIS ACTION IS MADE FINAL.** See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is (703) 308-7940. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2650) where this application or proceeding is assigned is (703) 872-9314.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To can be reached on (703) 305-4827.

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Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 305-4700 or the group Customer Service section whose telephone number is (703) 306-0377.

A handwritten signature in black ink, appearing to read 'G. R. Patel', with a long horizontal line extending to the right.

Gautam R. Patel
Primary Examiner
Group Art Unit 2655

GAUTAM R. PATEL
PRIMARY EXAMINER

September 16, 2004